



The Halifax Amateur Radio Club

REFLECTOR

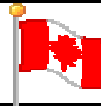
PO BOX 663
HALIFAX NS
B3J 2T3

February 2004 Volume 65 Number 2

club web site is www.halifax-arc.org



Happy Valentines Day



HARC Club Station phone number - 490-6421

See the HARC Web site at: <http://www.halifax-arc.org>

Our executive and committees.

<u>Position Name & Call Sign</u>	<u>Phone #</u>	<u>E-Mail</u>
President - Bill Elliott, VE1MR	865-8567	ve1mr@rac.ca
First V.P. - Fraser MacDougall VE1WO	865-4198	ve1wo@rac.ca
2nd V.P. - Rick Gardiner, VE1RGG		ve1rgg@rac.ca
Secretary - Howard Dickson, VE1DHD	823-2024	dhdickson@hfx.eastlink.ca
Treasurer - John Goodwin, VE1CDD	865-5731	ve1cdd@rac.ca
Member at Large, Tom Caithness, VE1GTC	477-7081	tom.caithness@ns.sympatico.ca
Club Station Mgr. - Pat Kavanaugh, VE1PHK	479-2530	ve1phk@rac.ca
Past President - Dick Grantham, VE1AI	434-8046	ve1ai@rac.ca

Committees/Offices/Prime Contacts

Public Relations: Wayne Harasimovitch, VE1WPH	832-3660	ve1wph@rac.ca
IPARN and Brit Fader Memorial QSL Bureau Manager - Bob Burns, VE1VCK	865-9414	ve1vck@rac.ca
EMO Coordinator - Dave George, VE1AJP	466-8723	dgeorge@is.dal.ca
Reflector editor - Lynn Bowser, VE1ENT	865-8567	ve1ent@rac.ca
Reflector Dist. - Tom Caithness, VE1GTC	477-7081	tom.caithness@ns.sympatico.ca
Membership - Tom Caithness, VE1GTC	477-7081	tom.caithness@ns.sympatico.ca
Web page - Rob Ewert, VE1KS,	826-1705	ewertr@hfx.eastlink.ca
Basic ham course Scott Wood, VE1QD,	823-2761	ve1qd@rac.ca
Callbook 04 Editor Howard Dickson, VE1DHD	823-2024	dhdickson@hfx.eastlink.ca
EMO Trailer Assembly coord - David Musgrave, VE1EDA	435-4333	ve1eda@rac.ca
Flea market 2004 Chair'man - Ed Grace, VE1EGG		
Field Day coordinator - NEEDED		
RAC Asst Director - Wayne Marchand, VE1WJM,	860-1580	ve1wjm@rac.ca
NSARA Director - Barry Diggins, VE1TRI	861-3719	ve1tri@rac.ca
Frequency coordinator for Nova Scotia - Bev Reynolds, VE1TL		

The **General Meeting** of the Halifax Amateur Radio Club will take place Wednesday, February 18, 2004 at 1930 hours (7:30 PM), at the former Bloomfield School building (corner of Almon and Agricola streets). The meeting will be held in the Multi-Purpose Room.

Guests are welcome.

Notice of motion

There will be a motion to approve the 2004 budget.

This will be the second vote as required by our constitution.

Notice of Motion

There will be a motion to install a UHF repeater at Cowie Hill site in the very near future. The installation costs may be up to \$100.

**Deadline for submissions to
the March Reflector is
Saturday, March 6, 2004**

Take-15 Net Controllers

NOTE: There have been some changes.

This will be the rotation.



If you cannot take the net on your particular evening get in touch with one of the others and trade places with them. If I have left any one off the list, or you want to join, please let Bill Elliott, VE1MR, know.

Feb. 15	Doug	VE1LDL
Feb. 22	Larry	VA1LW
Feb. 29	Dave	VE1EDA
Mar. 7	Herb	VE1HX
Mar. 14	Charles	VE1MCR
Mar. 21	Chris	VA1CDB

GENERAL INFORMATION

TAKE-15 NET:

Sunday evenings at 8:30 PM on
VE1PSR - 147.270 MHz +

CLUB REPEATERS:

VE1PSR - 147.270 MHz +
VE1HNS - 146.940 MHz -

PACKET:

VE1NSD - 145.050 MHz LAN NODE
VE1BBS - Local packet BBS
accessible through the LAN

Notice of Motion

There will be a motion to purchase a complete 50 MHZ repeater to be put at Cowie Hill site in the spring. The cost will be \$499.

NOTICE

The Reflector will now be available in PDF format. Those wishing to save the club printing and postage can request to receive it by E-mail and print it off on their own printer. Send request to Lynn Bowser at: ve1ent@rac.ca

**MID WINTER
AMATEUR
BREAKFAST**

When: 09:00

AM SATURDAY,

FEBRUARY 21, 2004

Where: HALIFAX STEAK &
STEIN corner of Robie & Young
Streets, Halifax

Reservations not required, but contact VE1ENT, Lynn, with intentions and rough numbers in order that we set up enough tables.

E-mail to ve1ent@rac.ca
or phone (902)-865-8567

Regular Steak & Stein breakfast menu in effect, wide variety of choices at reasonable prices.

Individual bills will be provided

And you could go directly from breakfast to the Club station to participate in GOTA at the HARC station. Schedule yourself with Pat, VE1PHK to participate. -ed.

The **Club station** is a good space for ham radio activities but **please reserve your date & time** with Station Manager Pat Kavanaugh, VE1PHK Telephone 479-2530 or E-mail ve1phk@rac.ca

This is to prevent the disappointment of arriving at the Club Station and finding someone else has booked it for the same time you wanted to use it. **So booking with Pat is a must!!**

To participate in GOTA (Guides on the Air) contact Pat, VE1PHK

**Maritime Callbook
2004**

Howard (VE1DHD) our 2004 Callbook Editor/Project Manager urges members to become involved in the project by contacting him directly by e-mail ve1dhd@rac.ca Or phone 823-2024

HARC is starting a **Special Interest Group** interested in **digital communication**. The structure is very loose and aims to address topics like interfacing computers and amateur gear as well as communicating via digital modes on VHF, HF and UHF. We will attempt to experiment with as many digital modes, software and hardware as possible.

There are 6 to 8 hams who have already expressed an interest. Like everything else, the more people involved, the fun and the learning increase proportionally. Why not come and join us? Everyone is welcome! No previous experience is required!

If interested, please contact me at ve1cdd@rac.ca or by phone (865-5731).

Date and time of get-together will be chosen by popular vote.

73 John VE1CDD

**Puzzler – Do You Know?**

In years gone by, the term BPL was applied to the Brass Pounders League, a CW traffic organization.

Now the term BPL is better known as the greatest threat to amateur radio operations in recent years.

What does the modern term BPL stand for?

Answer on page 98

**Are you up to date with your
HARC membership dues?**

Yearly rates are as follows:

Full = \$25 Associate = \$15
Family (2 members) = \$35 + \$10
for each additional family member
at same address (only 1 newsletter)

*Two Eskimos sitting in a kayak
were chilly; but when they lit a fire
in the craft, it sank, proving once
and for all that you can't have your
kayak and heat it too.*

Events for Your '04 Calendar

February – Ham breakfast

February – GOTA (Guides on the Air)

Sunday, March 14 - NSARA contest

May 15 '04 – Downeast Flea Market

June (last full weekend) - Field Day

July – Museum Ships Special Event

July & August – Pizza Nights

August – NSARA Picnic

August – Lunenburg Steak & Salmon
Supper

August 14 & 15 – MS Bike Tour
2004 - Contact Rick Gardner,
VE1RGG, to get involved.

October – VHF/UHF Contest

October – JOTA

December - Christmas party

HELP!

The club needs a number of people to take on occasional small jobs. Sometimes all that is required is a phone call or two, other times arranging to pick up and deliver some thing. What we need is for some one to take on a small task and see it through from beginning to the end. If we have a number of people available then no one person has to do a lot, but it will relieve the executive of many small tasks that have often got lost or delayed due to larger tasks taking over.

Often an executive member will start a task and if it does not move quickly and smoothly then it may bog down when they cannot follow up and it eventually gets forgotten or pushed aside.

The complete--and official--rules for Field Day are available on the ARRL Web site
<http://www.arrl.org/contests/rules/>

PRESIDENT'S MESSAGE**February 2004**

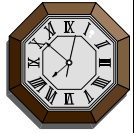
February has arrived and is proving to be warmer than January, the days are getting longer. I think these are sure signs of the coming Spring. With the coming of Spring the club activities ramp up. I am not sure if we will be doing Field Day this year, so far I have been contacted by one person who is willing to be co chair of the Field Day committee, if we do not have the committee in place soon then we will need to cancel our participation in Field Day.

There is a lot of estate gear to be checked out and sold; perhaps some members could take one or two pieces of gear to check out and sell. Up until now most of this has been done by two or three people, most of who are executive members with other club concerns.

I am happy to see some special interest groups starting or restarting up this year. Restarting is the APRS group as well as the Satellite group, with a new group focussing on digital modes and computer/radio integration. If you have a particular interest not currently active at the club then seek out some like minded people and start a group, you will be surprised at how many will be interested. I know some members would like a hands-on building and learning session. Don't wait for some one (the ubiquitous some one) to start this, you can start it.

I hope to see all of you at the Ham Breakfast this month. We may also have some out of town guests, so it should be a great social event and break up the winter blahs. GOTA is the same day this year and I have heard of at least 3 groups of guides coming to the club station, it is going to be a busy day for several people helping out at the club station. Lots of things happening at the club so chose what interests you and join in.

73 - Bill Elliott, VE1MR

NSARA contest March 14

HOURS: The contest will run for EIGHT hours in 2 four-hour sessions. The Morning Session will begin at 8:00 AM local time and will run for FOUR hours until 12:00 PM local time. The afternoon Session will begin at 2:00 PM local time and will run for FOUR hours until 6:00 PM local time.

OPERATING BAND: All contacts for contest credit will take place on the 80 meter band, PHONE and CW sections.

OPERATORS: Single transmitter but no restrictions on operators. SINGLE OP. or MULTI OP. permitted.

FIELD DAY type portable operations to rare counties are encouraged, especially if BASIC ops. are involved.

SCORING: One point per completed contact on PHONE -Two points per completed contact on CW. The SAME station can be logged once on PHONE and once on CW.

MULTIPLIERS: The 18 Counties of Nova Scotia will count as multipliers Any ham from anywhere can take part, but only Nova Scotia Counties will count as multipliers. Each county can only be counted once, even if worked on both modes.

See <http://users.auracom.com/nsara/> for details about the required format of EXCHANGE, LOGGING, etc.



Contest entrants will have ONE MONTH

to submit logs after the contest

Join in and have fun.



The club has ordered the **Anderson Powerpole connectors** and they are available now. The price to members will be \$1.25 each (this is a red and black connector for one complete end). To make a complete mating pair will require 2 connectors. To preorder your supply please contact Tom Caithness, VE1GTC by E-mail at:

tom.caithness@ns.sympatico.ca

If we have extra then we may offer them to non members at a slightly higher price.

First BLP in Canadian Market

Feb. 4, 2004 Amperion Inc. and PUC Telecom announced that Broadband over Power Line has been deployed in Saulte Ste. Marie, Ont. In addition, Amperion Inc. and PUC Telecom have struck an agreement to work with other Canadian utilities to roll out high speed broadband service using the Amperion Connect platform. PUC Telecom plans to quickly move from a market trial to commercial deployments in selected residential and business areas in Saulte Ste. Marie.

Amperion is the industry leader in the development of network hardware and software that enables the delivery of high speed broadband over medium-voltage power lines

Silent Key

George Oliver Dunfee, VE1AGT

Died on Jan. 17, 2004 at the age of 81 in Mitchell's Rest Home, Upper Nine Mile River. Born in Hamilton, Ont., he was a naval serviceman who served overseas during the Second World War. He retired as a Lieutenant Commander in the Royal Canadian Navy. He was heavily involved in amateur radio as VE1AGT and model aviation, and volunteered with the Red Cross and Waverley Ground Search & Rescue.

He is survived by his wife, Helen (Anderson); 5 sons, 5 daughters, 1 sister, and 13 grandchildren.

Memorial donations to Canadian Cancer Society. On-line condolences may be made to:

1019@alderwoods.com

RAC 2004-2005 executive officers

President – Daniel Lamoureux,
VE2KA

First vice president –

Robert Nash, VE3KZ,

Vice president regulatory affairs –

James Dean, VE3IQ

Vice president field services and international affairs –

Pierre Mainville, VA3PM,

Secretary - Noel Marcil, VE2BR,

Treasurer - vacant

Maritimes Section Manager -

Hugh Clark, VE9HC,

Atlantic Director - David Nimmo,
VE1NN

Growing older is mandatory.

Growing up is optional

*Laughing at yourself is
therapeutic !!*

From the ARRL Letter, Vol. 23, No. 01
January 2, 2004

A new Kenwood TM-D700E VHF-UHF dualband transceiver was installed late last fall in the ISS Zvezda Service Module--the crew's living quarters. ARISS International Chair Frank Bauer, KA3HDO, said official permission to use the new gear came December 17. The RS0ISS packet system also is back in operation.

"This equipment, including antennas, radios, hardware and software were developed and provided by a diverse set of team members located around the world," Bauer said in a year-end statement. "This was quite a challenge to make happen."

Activation of the new gear means a power boost from 5 W to 25 W for the NA1SS downlink signal. It also means the ISS now has two functional ham stations. Additional Phase 2 equipment is to include a slow-scan television (SSTV) system and a Yaesu FT-100 HF/VHF/UHF transceiver.

Stations contacting or monitoring the ISS on voice (NA1SS) or packet (RS0ISS) through the end of 2003 are eligible for special event certificates. See "K6DUE ISS Commemorative Event Certificates" on the ARISS Web site <<http://www.rac.ca/ariss>> for details..

Amateur Radio Light House Society



Like something different to do? There is a group of radio amateurs who travel to lighthouses then operate from the site. They collect QSL cards and work towards awards. These amateurs are members of the Amateur Radio Light House Society (ARLHS).

The purposes of this society are:

- 1) To promote public awareness of the role ham radio and light beacons have played in assisting and maintaining safety at sea.
- 2) To preserve the heritage and history of lighthouses and lightships
- 3) To aid in preserving those lights in danger of destruction or decay
- 4) To recognize the keepers of the lights as maritime heroes
- 5) To foster camaraderie within the ham fraternity
- 6) To provide fellowship amongst members of the Amateur Radio Lighthouse Society

You can find the rules, membership list, lighthouse list and award information at the Web site for the society, <http://arlhs.com/>. The

membership fee is \$20 US per year.

Here in Nova Scotia we are fortunate to have an abundance of lighthouses. You don't have to travel far to find one. Lots of these lights are within our cities and towns. You could spend an hour or two at a lighthouse operating while the rest of the family goes sightseeing. Or if that is not your style, you can choose from many of the lights along the shore where the family can spend the time beach combing, swimming or just relaxing in the sun.

It might be well to note, that on a remote beach, late in the season, when accompanied by your XYL you should both carry cell phones. If you are in the habit of using headphones while operating, be sure you have your phone set to vibrate as well as ring. This enables the XYL to contact you (all be it long distance) to let you know she's been accidentally locked in the outhouse a quarter mile down the beach. Believe me! I know whereof I speak! Hi Hi



73 John VE1CDD

ANTENNA DESIGN AND CONSTRUCTION

If there's one thing that all radio amateurs have in common it's the need for an antenna. If you're looking for a textbook you may want to try the ARRL publication "Simple and Fun Antennas for Hams"

<http://www.arrl.org/catalog/?category=&words=8624>

by Chuck Hutchinson, K8CH, and Dean Straw, N6BV.

Visit the ARRL Certification and Continuing Education (C-CE) Web page

<http://www.arrl.org/cce>
or contact the ARRL's Certification and Continuing Education Program staff
cce@arrl.org

Interfacing Radios and Computers

By John, VE1CDD



When connecting your radio to a computer, it is a very good idea to provide isolation between the two. Recently, while experimenting with a program that simulates a TNC, I connected the sound card to the external speaker jack of the radio. I then started the computer only to find that I had a black screen on the monitor.

"No problem" I thought. "Just a bad connection." However, I found that all the connections were fine. When I removed the audio jack from the sound card the monitor came to life. When the audio cable was plugged in the video disappeared

I then installed an isolation transformer (600 ohm to 600 ohm) in the audio path between the computer and VHF radio in the temporary setup. Problem solved! Everything worked properly.

The program I was testing is AWG Packet Engine. It has a free version that simulates a number of TNC's and will run on old computers. I set up an old computer to run APRS and Packet at the same time (not really, as it is running with Windows 98).

A lot of the sound cards are stereo "Line In" and "Line Out". This gives you separate left and right audio channels. AWG Packet Engine uses this feature and creates two ports. One port is the Left channel (tip) and the other port is the Right channel (ring). In my setup I have Port #1 connected to a VHF radio which is set to the APRS frequency and Port #2 connected to the second VHF radio which is tuned to the packet frequency.

I run UI-View on port #1 and a packet terminal program on port #2. Both programs are running and are active. In this case there are two

VHF radios but it could work with any mixture of radios.

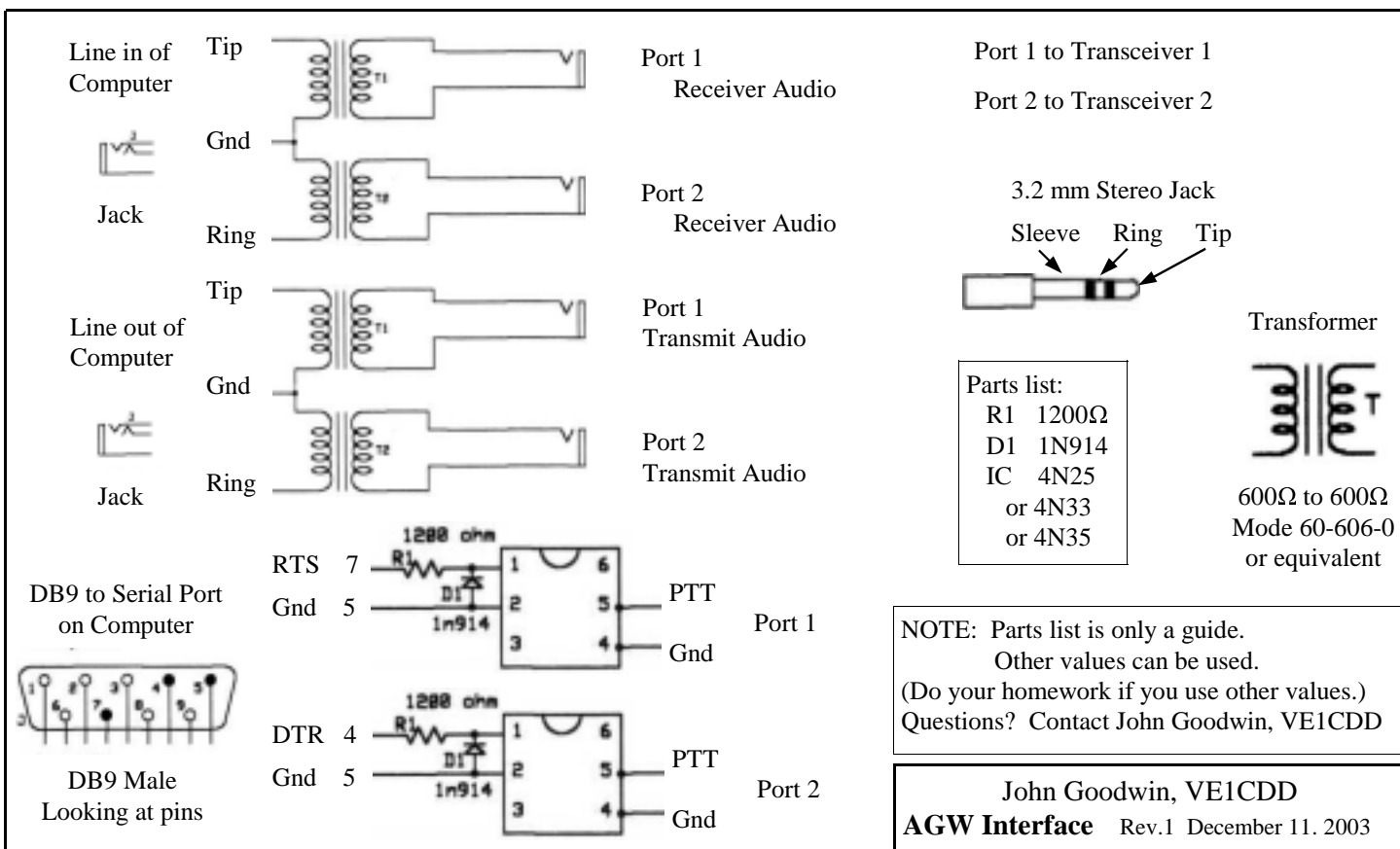
AWG Packet Engine uses both the DTR and RTS lines for PTT. I built two PTT circuits using optical isolators, one for the RTS line and one for the DTR line. Thus port #1 uses the RTS line while port #2 uses the DTR line.

Remember, you will need 2 isolation transformers for the receive (Line In) and 2 for the transmit (Line Out). See wiring diagram below.

AWG Packet Engine is available from <http://www.raag.org/sv2agw/inst.htm>.

The free version is AGWPE.ZIP. While you are at this site, check out the other programs. Another site of interest is <http://www.qsl.net/soundcardpacket/agwget.htm> which contains information on using the program and sound card interfacing.

Anyone adventurous enough to try two sound cards and two serial ports controlling four radios?



Halifax Amateur Radio Club Minutes of the General Monthly Meeting of January 21st 2004

The meeting was called to order at 1935 hrs Wednesday, January 21st 2004 by President Bill (VE1MR) with 27 members in attendance.

Executive in attendance: Bill Elliott (VE1MR) – President; Fraser MacDougall (VE1WO) – First Vice-president; Rick Gardner (VE1RGG) – Second Vice-president; Howard Dickson (VE1DHD) – Secretary; John Goodwin (VE1CDD) – Treasurer; Pat Kavanaugh (VE1PHK) – Station Manager; Tom Caithness (VE1GTC) – Member at Large.

Silent Keys:

George Dunfee, VE1AGT (David George, VE1AJP, gave a short eulogy); Bob Banks (VE1RRR) and Luke Cleary (VE1AY).

Guests: Tom Gaum VE1BMJ of Halifax indicated that he has not been overly active of late but does plan on getting onto 2m more now and that he will be joining the Club.

Minutes of the monthly meeting of 19 November 2003: Approval of the minutes as published in the January 2004 Reflector was moved by George (VE1GAB) and seconded by Karen (VE1KHP). Motion carried.

Reports:

Treasurer – John (VE1CDD) reported a bank balance of \$2317.10. Approval of the Treasurer's report was moved by Lynn (VE1ENT) and seconded by Jim (VE1SFX). Motion carried.

President –

Request for RAC Student Support – Bill (VE1MR) reported that the club had received letters from two clubs in Ontario requesting that the HARC match their contribution of \$100 to the RAC Trust in support of young amateurs. The Executive had considered this request and their recommendation, based on the fact that the Halifax Club already provides significant support in this area through the Brit Fader Scholarship Trust, was not to make such a contribution to RAC.

Future of the Bloomfield Centre – Bill reported that John (VE1CDD) and Wayne (VE1WPH) had attended an information meeting of tenants at the Bloomfield Centre. The Centre appears to be running a significant deficit and there is a strong likelihood that the Centre may close. A second meeting on February 19/20 with tenants will attempt to determine individual needs and they expect to be in a position to inform tenants in early March with respect to the status of the Centre. Bill reported that Barry Manual of the HRM/EMO has already indicated his willingness to assist the Club in finding alternate space. There was some discussion concerning possible locations. It was generally agreed that a location on peninsular Halifax was preferable.

Field Day 2004 Chair – Bill indicated that a Chair for Field Day 2004 was urgently needed to co-ordinate this event. There were no volunteers.

Brit Fader Scholarship Trust – Bill indicated that Lynn (VE1ENT); Bill (VE1MR) and Paul (VE1ARH) had been named to the Board of the Trust; John (VE1CDD) the current HARC Treasurer will complete the term of Jeremy (VE1JHF).

Second Vice-president – Rick indicated that the speaker for this evening is Constable Roger Booker co-ordinator for the Halifax Citizens on Patrol pilot project. Rick also reported that Jim (VE1SFX) had arranged for a basket of Chocolate treats to be donated by Rosemary's Chocolates - 3560 Robie St., Halifax (<http://www.rosemaryschocolates.com/>).

Station Manager – Pat (VE1PHK) reported that the card swipe unit has arrived but that it does not provide an audit trail. He is looking into this before installing it. Pat also informed the membership that two groups of Girl Guides have indicated an interest in working the Club station on Saturday, February 21st for GOTA (Guides on the Air). Pat will need volunteers to assist these operators.

Search and Rescue / Emergency

Measures – George (VE1AJP) reported a busy time for the Search Team over Christmas.

Membership – Tom (VE1GTC) reported as of January 21st 2004 there are 78 HARC members – 62 full members; 14 associate members; 2 life members. Three new members have joined the Club; they are:

Tom Gaum VE1BMJ, Fred Guptill (member of the 2003/2004 HARC HAM Class), Rick Pieniaszek KA6NQK / VE1 (will be writing for VE1 call sign soon)

Club Website & IRLP – Rob (VE1KS) reported that the new IRLP node in Bridgewater will come on line soon. This node will have a VE0 call and will operate from the Lunenburg County Amateur Radio Club station aboard the HMCS Fraser. The Yarmouth IRLP node will also be active soon. With respect to the Halifax Club IRLP node. Rob reported that our antenna for the VE1HNS repeater must be removed from the CBC tower. Negotiations are ongoing for us to use an existing antenna on a nearby tower. The proposed antenna is positioned higher and will favour the east more. Finally Rob indicated some changes to the HARC website, with a new facility to allow HAMS to view the status of their QSL account.

New Business:

2004 HARC Budget – Bill (VE1MR) introduced the 2004 budget and went through the budget line by line. He indicated that the Executive had approved this budget and that it is being brought to the membership for their approval. The HARC constitution requires that the budget be brought to the membership on two occasions for approval. A copy of the budget is appended to these minutes. A motion to approve the budget was made by Scott (VE1QD) and seconded by David (VE1EDA). Some questions were raised concerning the need for a budget line for club renovations if the Club may be moving; it was suggested that funds could be used in a

(Continued on page 7)

**GREAT JOB GUYS!**

June 29, 2003, during Field Day HARC made one of the only 30 or so contacts with the International Space Station (NA1SS).

Well we received a QSL card and since the contact was made by Bill, VE1MR, at the mike and Wayne, VE1WPH, at the controls the *photo-op* captured Wayne & Bill receiving the card on behalf of the HARC from Past President Dick, VE1AI

Minutes (Continued from page 6)

new location. With respect to Field Day, Bill indicated that the 2004 Field Day will definitely be an outdoor event in 2004 and the budgeted line item is required. Expenditures for Field Day 2003 were much less than was budgeted for because Field Day was held at the EMO facility.. On request, Bill outlined the range of projected equipment purchases that the Executive had discussed. He also pointed out that irrespective of the approval of the budget for 2004, individual budgeted expenditures in excess of \$500 must each be brought to the membership for approval. The motion to approve the 2004 HARC Budget passed for the first time.

Universal Power Connectors – Tom (VE1GTC) provided examples of the application of the Anderson Powerpole Connectors and Bill indicated that the EMO had purchased 500 for use by their trained Amateur Radio communicators. Bill indicated that a bulk purchase of 250 or more connectors could be made for approximately 80 cents each, and that these could be sold to members and at the Flea Market for a profit that would return to the Club. With some discussion, a motion for the Club to purchase 500 Anderson Powerpole Connectors was moved by Scott (VE1QD) and seconded by Jim (VE1SFX); motion carried.

Letter of appreciation – Bill (VE1MR) read a letter of appreciation from John Doull (VE1WC) for the work that Bill (VE1MR); Terry (VE1TRB); Lynn (VE1ENT); Pat (VE1PHK) and Wayne (VE1WPH) had done in taking down and later re-installing his HF beam following Juan in September. A contribution of \$100 to the HARC accompanied his letter. A motion was placed on the floor by Barry (VE1TRI), seconded by John (VE1DD) to put \$50 of this donation into the Brit Fader Trust and the remainder in the general account. The motion was approved.

Packet BBS – Bill (VE1MR) asked if the Club wished to continue to support the BBS. Discussion revealed that the BBS statistics show low usage. A motion that the Club should cease to provide financial support for the Packet BBS beyond the June 2004 to was made by Dave (VE1AJP) and was seconded by Lynn (VE1ENT). The motion carried.

Announcements:

Reflector online – the HARC Reflector is now available in electronic form (Adobe pdf file) for anyone wishing to receive it this way. With increasing postal rates, the cost saving to the club by distributing the Reflector in this way

will be significant. Tom (VE1GTC) indicated that the electronic version would be sent late on the second Wednesday of each month. Anyone wishing to receive the Reflector by email should send Lynn (VE1ENT) an email request.


Special Interest Groups – Dave (VE1EDA) and John (VE1CDD) reminded the membership that the APRS and Satellite Special Interest Groups would be meeting soon. Anyone wishing to participate should contact Dave (ARPS) and John (Satellite) for information. John indicated that because of the interest expressed in digital modes, a third special interest group on Digital Modes will soon be formed. Contact John if you are interested in joining. Finally, it was pointed out that suggestions for additional areas of special interest are always welcome.

Door Prize – The basket of chocolate goodies from Rosemary's Chocolates was won by Dave (VE1EDA).

50/50 Draw – was won by Pat (VE1PHK).

The meeting adjourned at 2045.

Thanks to Constable Roger Booker for a very interesting and lively presentation and discussion on Citizens on Patrol.

Respectfully submitted by: 
Howard (VE1DHD) Secretary

Mars Exploration

Most of us have by now seen pictures of parts of Mars' surface by the latest of the Earth to Mars missions. Attempts began in the 1960's. -ed.

1960's - Mariner 4 (flyby)
 - Mariner 6 (flyby)
 - Mariner 7 (flyby)

1970's - Mariner 9 (orbiter)
 - Mars 2 (orbiter)
 - Mars 3 (orbiter/lander) landed Terra Sirenum, Dec.2, 1971
 - Mars 5 (orbiter)
 - Mars 4, 6, 7 (flybys)
 - Viking 1 (orbiter/lander)
 - Viking 2 (orbiter/lander) landed September 3, 1976

1990's
 1997 - Mars Pathfinder (lander/rover) landed July 4, 1997
 1997 - Mars Global Surveyor (orbiter) - arrived Sept. 12, 1997
 2001 - Mars Odyssey (orbiter) - arrived October 24, 2001

Launched 2002/2003
 Nozomi (orbiter) [Japan]
 Mars Express (orbiter) [European Space Agency]

2003 - Beagle 2 (lander) launched June '03 landed Dec.25 '03 (Isidis Planitia, a large equatorial basin)
 2003 - Spirit - Mars exploration rover, launched June 10 '03; landed Jan.3 '04 (Ma'adim Vallis)
 - Opportunity - Mars exploration rover, launched June '03; landed Jan.25 '04 (Terra Meridiani)

Future USA missions planned to launch before 2010 are:

Mars Reconnaissance (orbiter)
 Phoenix (lander)
 Mars Science Laboratory (lander/rover)



Note:

USSR missions - Mars 2, 3, 4, 5, 6, 7
 U.S.A. missions - Mariner 4, 6, 7, 9;
 Viking 1, 2; Mars Global Surveyor,
 Mars Pathfinder, Mars Odyssey,
 Spirit, Opportunity

See www.nationalgeographic.com/magazine/0401

From the ARRL Letter, Vol. 22, No. 42
AMSAT OSCAR ECHO TO LAUNCH IN MARCH
 AMSAT-North America

<http://www.amsat.org/>
 has announced that launch of the AMSAT OSCAR-E Amateur Radio microsat--the "Echo Project"--has been moved up to March 31, 2004. Echo Project Team member Richard Hambly, W2GPS, reported at AMSAT-NA's Annual Meeting and Space Symposium Oct. 18-19 in Toronto that the Echo project has made significant progress recently.

"The Project Team met with our contractor, SpaceQuest <<http://www.spacequest.com/>>, and at this meeting we decided that spacecraft integration would take place this December at the AMSAT Integration Lab at NASA Goddard Space Flight Center and scheduled the launch for March".

A Russian Dnepr LV rocket--a converted SS-18 intercontinental ballistic missile--will carry the approximately 10-inch-square satellite into a low-Earth orbit from the Baikonur Cosmodrome in Kazakhstan.

The satellite will incorporate two UHF transmitters, each running from 1 to 8 W and capable of simultaneous operation, four VHF receivers and a multiband, multimode receiver capable of operation on the 10 meter, 2 meter, 70 cm and 23 cm bands. Echo will feature V/U, L/S and HF/U operational configurations, with V/S, L/U and HF/S also possible. FM voice & various digital modes (including PSK31 on a 10m. SSB uplink) will be available.

The call sign block KC4USA through KC4USZ is available to the U.S. Department of the Navy for the use of amateur stations at US Navy Antarctic stations

The I.Q. of a mob is the I. Q. of its most stupid member divided by the number of mobsters.
 - "Masquerade" by Terry Pratchett

**Answer to puzzler on page 2**

In years gone by, the term BPL was applied to the Brass Pounders League, a CW traffic organization. What does the modern term BPL stand for?.

Answer: Broadband Power Line distribution of digital signals. It is of special interest to amateurs because frequencies throughout the HF range and up to VHF will be carried by the power lines, causing interference to most amateur bands.

*Two hydrogen atoms walk into a bar.
 One says, "I've lost my electron."
 The other says, "Are you sure?"
 The first replies, "Yes, I'm positive..."*

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The oldest working satellite, AO-7, will mark its 30th year in space during 2004. The satellite, which came back to life in mid-2002, was launched Nov. 15, 1974. It remained operational until 1981, when it went dark due to battery failure remaining dormant (and largely forgotten) until it suddenly and unexpectedly sprang back to life. AO-7 is in a 1460 km orbit, and AMSAT-NA considers the satellite "semi-operational." Jan King, W3GEY reports AO-7

<http://www.amsat.org/amsat/news/wsr.html#ao-7>

is running solely from its solar panels, so it will only work when in sunlight. It has a Mode A uplink passband at 145.850 to 145.950 MHz and a downlink passband at 29.400 to 29.500 MHz (CW/USB). Beacons are at 29.502, 145.972, 435.1 and 2304.1 MHz. Ground controllers have only been able to activate some command functions. It also contains a Mode B transponder. To mark the satellite's 30th anniversary, AMSAT-NA will make available a special commemorative QSL card. AMSAT-NA Board Member and Awards Manager Bruce Paige, KK5DO, reports additional information will be available on the AMSAT-NA Web site <http://www.amsat.org>

From the Mail

Bill Elliott VE1MR, President Halifax Amateur Radio Club (HARC)

The Canadian Coast Guard Auxiliary is a group of 5000 volunteers who support the Canadian Coast Guard in their Search and Rescue and Boating Safety activities.

(More info on the CCGA on our Web Site at: http://www.ccgagcac.org/home/home_e.asp)

We will be holding the sixth annual International Search and Rescue Competition (ISAR) in Halifax on Sept. 9-11, 2005 (tentative dates) along with our fellow auxiliaries of the United States Coast Guard Auxiliary (12 teams will be competing).

For more information about the ISAR Competition, you can visit the site of the last competition - ISAR 2003 - at: http://www.ccgagcac.org/isar2003/index_e.asp.

On the same dates, we are also holding a special HF Communication Event on amateur frequencies to celebrate ISAR and the anniversary of the USCG Auxiliary. More details of the last HF Radio event are available at: http://www.ccgagcac.org/isar2003/amateur_radio_e.asp.

The next event will take place in Portsmouth, Virginia on Sept. 26-27, 2004 and then Halifax in 2005.

During the last three SAR Competitions (that were held in Vancouver, Milwaukee and St. John's), we have recruited each time a local ham radio club to set up a special event station to operate from the site of the competition. This allows Canadian and US participants to join the HF communication event while the competition unfolds. It also allows the National Commodore of the USCG Aux. and National CEO of the CCGA to convey messages to their fellow members across Canada and the USA. We usually obtain a special call sign and produce a special QSL card for the occasion. The HF event is organized in cooperation with the USCG Auxiliary Telecommunication Department. In the US, the event coordinator is Dan Amoroso (e-mail: nm3s@prodigy.net).

The special event station also allows us to demonstrate to the public the benefits of coordinated efforts between two important volunteer organizations (Coast Guard Auxiliary & Amateur Radio) associated to emergency preparedness.

I would like to find out if the HARC would be interested in joining us to set up the Special Event Station at ISAR 2005.

I have documents & videos on previous competitions which I can send you. I will also be attending the 2004 Halifax Boat Show on

February 13-15. After reading your on-line newsletter (The Reflector), I understand that you may have some members present at the Boat Show (Wayne VE1WPH?). Maybe this would be a good occasion to meet and discuss this further.

We would be honoured to have the HARC joining us as a partner for this important event.

François Vézina, VE2JRK, National Business Manager Canadian Coast Guard Auxiliary,
Phone (613) 991-5714

OK so the following isn't directly related to ham radio but it is about technology related to aerospace and it is about Canadians achieving and maybe someone you know qualifies to apply for one of these fellowships -ed.

Amelia Earhart Fellowships honour Canadian aerospace research

CBC News

The 3 Canadians who have won 2003 Amelia Earhart Fellowship Awards for their research in aerospace science and engineering are:

Jane Cavanagh (University of Saskatchewan) a mechanical engineering researcher, works with NASA scientists to test how fast and how badly an astronaut can be burned if their clothing catches fire in space.

She plans to conduct her experiment on the combustibility of different fabrics at NASA's John Glenn Research Center in Houston. Cavanaugh will have a 20-second window to test her fire study on a low-gravity aircraft which simulates the weightlessness of space.

Katrina Brandstadt (McGill University) a materials engineering graduate student, studies how metals and metal-based fuels burn. One practical goal of the research is to develop clean and efficient propulsion for space vehicles.

Nancy Martineau (McGill University) is a doctoral student in geomorphology at McGill. Her research focuses on similarities between Earth and Martian environmental conditions. By studying a unique set of cold springs on Canada's Axel Heiberg Island, she hopes to learn about hydrological, microbiological and fossil-forming properties of the springs. The insights could help scientists to understand the origins and formation of gullies on Mars.

Zonta International offers the \$60,000 US awards to women pursuing graduate degrees in aerospace research. The worldwide organization works to advance the status of women. The award was established in 1938 to honour the memory and accomplishments of pilot Amelia Earhart.

35 fellowships are awarded each year See web site www.zonta.com

The mind of a 6-year old is wonderful. First grade true story: One day the first grade teacher was reading the story of the Three Little Pigs to her class. She came to the part of the story where the first pig was trying to accumulate the building materials for his home. She read, "...And so the pig went up to the man with the wheelbarrow full of straw and said, 'Pardon me sir, but may I have some of that straw to build my house?'" The teacher paused then asked the class, "And what do you think that man said?" One little boy raised his hand and said, "I think he said, 'Holy sh_t! A talking pig!'" The teacher was unable to teach for the next 10 minutes.

The Elephant Cage!

Imagine an antenna array that was 1000 feet in diameter, over 100 feet high, and required more than 40 acres! Such arrays do indeed exist, and the best thing is that security is so tight there are no pesky neighborhood associations nearby to complain!



The Wullenweber is a receive-only antenna used by the Canadian, American and allied militaries for Radio Direction Finding and signal intercept. The German Navy first developed it during World War II. One of the two arrays built by Germany was destroyed following the war, but the other was disassembled and brought back to the University of Illinois for study. It was the Soviet military that first employed Wullenweber arrays however. In fact, the Soviets deployed 20 before the United States military demonstrated an interest in the huge systems in the late 1950s.

The Wullenweber is also known as a CDDA (Circularly Disposed Dipole Array) and also as a CDAA (Circular Dipole Antenna Array). Other, more descriptive names have been given to the Wullenweber. These include the Dinosaur Cage, the Turkey Cage, and the Elephant Cage. Incidentally, Wullenweber was not a scientist associated with the development of the antenna. He was actually a Robin Hood type of figure who was born in Hamburg in 1488, and became a martyr for his fight against injustice. The German Navy used Wullenweber as a covername during the war.

The Wullenweber used by the US Navy is designated the AN/FRD-10, while the AN/FLR-9 is the US Army and Air Force version. The AX-16 is a half-size version used primarily in Great Britain where space is at a premium. The AN/FRD-10 has 2 concentric rings of vertical antennas. The outer ring has a diameter of 850 feet and consists of 120 sleeve monopoles, each 80 feet high. The inner array is 750 feet in diameter and has 40 folded dipole elements, 120 feet high. Inside the inner array is a reflecting screen. It is made of approximately 700 vertical copper wires suspended from 80 90-foot poles. A similar, but shorter, reflecting curtain for the outer verticals is located between the two antenna arrays. As you might have gathered by the dimensions of the individual antennas, the outer array covers the higher frequencies (above 8 MHz, to approximately 30 MHz from what I can gather from unclassified sources), while the lower band covers 2 to 8 MHz. The entire array sits on a ground screen approximately 1300 feet in diameter!

Each antenna element is fed with very low loss 75-ohm coax cable. The cables all enter a large 2-story concrete operations building located in the center of the array. Without going into a lot of detail of how the array is "steered",

suffice to say that the system phases the various antenna elements to create large phased arrays at the desired frequencies. When searching for signals the standard beamwidth is 30 degrees. When monitoring, 15 degrees is the standard beamwidth. Although I can't find anything about the array's discrimination when in the direction finding mode, I would imagine that it would be accurate to within a few degrees. This is one fantastic antenna system!

The AN/FLR-9 is similar, but has a third array of elevated horizontal dipoles to give expanded frequency coverage. It is apparently much trickier to build and adjust however. The cost to build the average FLR-9 is said to be 15-25 million dollars! This really is one fantastic antenna system!

With the end of the Cold War, many Wullenweber arrays have been decommissioned and scrapped. I do know that there are still several in service in the USA, Canada and Great Britain. Their days may be numbered however. Modern Digital Signal Processing (DSP) techniques can accomplish the same without the huge investment in antenna arrays, and satellites can maintain surveillance over sensitive areas from space.

I wonder how much it would cost to buy a decommissioned Wullenweber and press it into service with my HF rig?!

73 de AI VO1NO
Colorado Springs

